

REMARKS/ARGUMENTS

This Amendment is submitted in response to the Office Action mailed on May 17, 2006. Claims 1 - 25 are pending, and all stand rejected at present.

Support for the amendment to claim 18 can be found in the Specification, paragraph 17, as well as other locations.

On page 2 of the Office Action, the Examiner rejected claims 18, 19 and 21 under 35 U.S.C. §102(e) as being anticipated by Stridsberg (U.S. 6,885,162). For all of the following reasons and in view of the claims as now presented, Applicants respectfully traverse this rejection.

On page 4 of the Office Action, the Examiner rejected claims 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 20, 22, 23, 24 and 25 under 35 U.S.C. §103(a) as being unpatentable over Mukai et al. (U.S. 5,927,430) in view of Stridsberg (U.S. 6,885,162). For all of the following reasons and in view of the claims as now presented, Applicants respectfully traverse this rejection.

On page 12 of the Office Action, the Examiner rejected claims 6 and 16 under 35 U.S.C. §103(a) as being unpatentable over Mukai et al. (U.S. 5,927,430) in view of Stridsberg (U.S. 6,885,162) and Heine et al. (U.S. 6,201,322). For all of the following reasons and in view of the claims as now presented, Applicants respectfully traverse this rejection.

SUMMARY OF RESPONSE TO REJECTIONS

Anticipation Rejections

Point 1

Claims recite a "DC automotive steering motor." No such motor has been shown in the reference.

Point 2

The claims state that all phases in a group are shut down, with a minimum of two phases being shut down. The references do not show that. Stridsberg may shut down three coils, but those are not three phases, as claimed.

Obviousness Rejections Based on Stridsberg and Mukai

Point 1

Many claims recite terminating other poles, in addition to a pole which is found to be faulty. The references do not show that.

Point 2

No teaching has been given in favor of combining the references.

CLAIM 1

The rationale given for claim 1 is that the combination of references supposedly accomplishes certain goals. However, the Mukai reference, by itself, accomplishes those goals. Thus, since there is no reason to combine the references to attain those goals (because Mukai accomplishes the goals by himself), those goals do not act as a teaching for combining the references.

Further, a mere assertion that the combination of references accomplishes certain goals is not, in general, a teaching in favor of combining the references in the first place. The MPEP, as cited herein, requires that the teaching be shown in the prior art. If the goals are to be used as a teaching, then (1) those goals must be recognized in the prior art, and (2) the prior art must show that the combination of references accomplishes the goals. That has not been shown.

CLAIM 11

The rationale given in support of rejecting claim 11 is merely a paraphrase of Stridsberg's SUMMARY OF THE INVENTION. In general, a reference's SUMMARY OF THE INVENTION is not a teaching in favor of combining with another reference, particularly when the other reference is not mentioned in that SUMMARY.

Point 4

The references are contradictory. Stridsberg teaches terminating coil(s). Mukai terminates no coils. Contradictory references cannot be combined.

Point 5

No expectation of success has been shown, as required by the MPEP. Mukai shows a motor having two inputs. Stridsberg's motor has 12 inputs. The PTO has not shown how Stridsberg's motor can be incorporated into Mukai's control system.

Point 6

The combination of references alters Mukai's "principle of operation," contrary to the MPEP § 2143.01, set forth herein.

Mukai operates a motor 10 by controlling voltage applied to the motor 10, according to a normal control algorithm. He monitors sensors associated with the motor 10. If a sensor is found to be faulty, he switches to a modified control algorithm.

Stridsberg terminates a coil in a motor, when the coil is found faulty.

Two possibilities exist: (1) Stridsberg's **motor** is **substituted for** Mukai's or (2) Stridsberg's **approach** is **added to** Mukai. (As to (2), it would make no sense to **add** Stridsberg's **motor** to Mukai: why are two motors needed ?)

If Stridsberg's motor is **substituted for** Mukai's, then Mukai's control system must be somehow altered, to handle a 12-input motor, when previously Mukai handled a 2-input motor. The "principle of operation" of Mukai has been thereby altered.

Further, Stridsberg states that, when a coil is terminated, current to other coils is increased in order to compensate. (Abstract, fourth-to-last sentence.) No showing has been made as to how Mukai's control system can do that. And if it does, that is another alteration in Mukai's "principle of operation."

Therefore, the substitution alters Mukai's "principle of operation."

If Stridsberg's approach is **added to** Mukai, then one or more coils in Mukai's motor must be terminated. However, Mukai's motor contains two inputs (positive and ground). Only those inputs are available for termination.

If those are terminated, nevertheless, Mukai still tries to control his motor according to the normal control algorithm, because no fault in his sensors has been detected.

Thus, Mukai tries to control motor 10, which has been terminated.

Again, the "principle of operation" of Mukai has been altered.

In addition, Mukai states that power to his motor is reduced, when a fault is detected in a sensor. That is contrary to Stridsberg's teaching of an increase in current. Further, if Stridsberg's teaching of an increase is followed, Mukai is again altered" Mukai wants a reduction in power.

Therefore, the modification of Mukai alters his "principle of operation," contrary to the MPEP.

Obviousness Rejections Based on Stridsberg, Mukai, and Heine

The claims recite spokes at (1) "regular" (2) 20-degree intervals.

Stridsberg's Figure 2 shows spokes at less-than-20 degree intervals, because 18

spokes are distributed over the 360 degrees of the circle, but six spaces such as 203 are also distributed over the same 360 degrees. Thus, his 18 spokes are distributed over (360 degrees minus the sectors occupied by the six spaces), which provides less than 20 degrees for each spoke.

Further, Stridsberg's spokes are not "regular." The spacing between W3 and U4 in his Figure 2 is different from that between W3 and W2.

Therefore, the two claim recitations are not shown in Stridsberg.

The Office Action tries to modify Stridsberg, based on Heine's teaching that altering the spacing and width of the spokes (or teeth) can change torque. However, two major problems arise.

One problem is that no reason has been shown why Stridsberg wants to change torque. Thus, there is no reason to change spacing or width for that purpose.

A second problem is that, even if a reason for changing the torque in Stridsberg is advanced, no showing has been made that the spacing and width of the spokes/teeth should be changed to the specific parameters claimed, namely, (1) "regular" (2) 20-degree intervals. These two parameters are not shown in Heine.

Therefore, these two claim parameters are not shown in the prior art.

RESPONSE TO ANTICIPATION REJECTION OF CLAIMS 18, 19, AND 21

Claims 18, 19, and 21 were rejected on grounds of anticipation, based on Stridsberg.

Claim 18

Point 1

Claim 18 states that

- three "poles" are present in each "group," with the "poles" being "separately excited."
- all 3 poles in each group being powered by three-phase current, one phase for each pole.

Claim 18 also recites "(5) terminating current flow to **all poles in the pole group of the failed pole.**"

Therefore, the termination results in terminating 3 poles, with three different phases being terminated.

Stridsberg states that he terminates one "winding group" (another term for "pole group.") (Abstract.) For example, the three coils U1 - U3 form one "winding group." (Column 4, line 32.)

Therefore, Stridsberg terminates, for example, winding group U1 - U3 in his Figure 3. But that winding group is connected in series, and carries a **single phase**.

That does not amount to the claimed "(5) terminating current flow to **all poles in the pole group of the failed pole,**" which terminates three phases. Stridsberg terminates only a single phase.

Applicant invites the Examiner to suggest further modifications to the claim, if the Examiner believes that the claim does not sufficiently emphasize the facts that three phases are terminated, when a fault occurs in a single phase.

Point 2

Claim 18 recites "A method of reducing adverse effects of a short in a stator of a

3-phase DC automotive steering motor . . ."

No "automotive steering motor" has been identified in Stridsberg.

Further, in the obviousness rejections of other claims, discussed below, another reference (Mukai) is cited to show an automotive steering system motor, while Stridsberg is cited to show a particular type of motor. Applicant submits this to be a tacit admission that Stridsberg does not show the claimed "automotive steering motor."

In addition, amended claim 18 states that the "motor" is within the power-steering system of a vehicle. That is not seen in Stridsberg.

Conclusion

MPEP § 2131 states:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

Applicant therefore submits that the anticipation rejection cannot stand, because the claim recitations discussed above are not found in Stridsberg.

Claim 19

Claim 19 is considered patentable, based on its parent.

In addition, claim 19 refers to "said" "pole groups" recited in its parent claim. As explained above, under parent claim 18, current is terminated in the **entire** "pole group," thus terminating all phases in that "group," and that is not seen in Stridsberg. (For example, current must be terminated in all of U1 - U3, V1 - V3, and W1 - W3 in Stridsberg's Figure 3, and that is not done.)

Therefore, "said" "pole groups" of the parent claim are not found in Stridsberg, and are thus not found in dependent claim 19.

Claim 21

The discussion of claim 19 applies here. Claim 21 recites "disabling all poles in said pole group." The preamble states that a "pole group" is a "three-phase" entity. Thus, three phases are disabled.

As explained above, Stridsberg disables, for example, coils U1 - U3 in his Figure 3. That does not disable three phases, or three poles.

**RESPONSE TO OBVIOUSNESS REJECTION OF CLAIMS 1 - 5, 7 - 15,
17, 20, AND 22 - 25**

These claims were rejected as obvious, based on Stridsberg and Mukai.

Claim 1

Point 1

Claim 1 recites "disabling **all of said poles** within the m-phase group" and that "m" phases are disabled, wherein "m" is equal to, or greater than, 2.

The Office Action, page 2, states that each of the following triplets (eg, U1 - U3 is one triplet) in Stridsberg's Figures 2 and 3 represents one "pole," for a total of six poles:

U1 - U3,

V1 - V3,

W1 - W3,

U4 - U6,

V4 - V6, and

W4 - W6.

As explained above, Stridsberg disables only a **single** one of these triplets, such as U1 - U3. That does not show "disabling **all of said poles** within the m-phase group" and disabling two, or more, "phases," as claimed.

To show the claimed language, as a minimum, under the PTO's interpretation of Stridsberg, all of elements U1 - U3, V1 - V3, and W1 - W3 in Stridsberg's Figure 3 must be disabled together.

Stridsberg does not do that.

Point 2

Applicant submits that no valid teaching has been given in favor of combining the references.

The rationale given is that adding Stridsberg to Mukai provides Mukai with a system for controlling rotational movement, which can detect different types of faults, and [accomplish] this with a the use of high reliability motor system.

(Office Action, page 4, bottom.)

However, several problems exist in this rationale.

PROBLEM 1

Mukai, by himself, states that he accomplishes these three goals.

- His motor 10 provides "rotational output." (Column 4, line 54.)
- He detects "different types of faults." (Column 6, line 20 et seq.)
- He states that he provides a high reliability motor system. He states that

he provides a "fail-safe" system. (Column 2, line 66.)

Therefore, the proposed goals of the PTO's rationale are attained by Mukai himself. There is no need to add Stridsberg. Consequently, the proposed goals do not, as a matter of logic, lead to a combination of Stridsberg with Mukai.

PROBLEM 2

The rationale for combining the references merely sets forth supposed characteristics of the references, but after the combination. That is not a teaching under section 103.

One reason is that all combinations of references will possess some characteristics. If the mere presence of characteristics in a combination of references acts as a teaching for combining the references, then all inventions would be obvious. (Because, as just stated, all combinations possess characteristics. If those characteristics can act as teachings, then a teaching can always be found.)

Plainly, the mere presence of characteristics in a combination of references cannot act as a teaching under section 103.

No Expectation of Success Shown

No expectation of success has been shown, indicating that the combination of references actually works. MPEP § 706.02(j) states:

Contents of a 35 U.S.C. 103 Rejection

...

To establish a *prima facie* case of obviousness, three basic criteria must be met.

...

Second, there must be a reasonable expectation of success.

...

The . . . reasonable expectation of success must . . . be found in the prior art and not based on applicant's disclosure.

Stridsberg's Figure 3 shows six triplets of coils, each triplet containing three coils. (W1 - W3 forms one triplet.)

Each triplet has two input wires. One input for W1 - S3 is connected between transistors T21 and T22. The other is connected between T23 and T24. Thus, Stridsberg shows twelve input wires.

Mukai shows a motor 10 in his Figure 2, which has two inputs. Consistent with this, he refers to "motor current," which is singular in number, and "motor voltage," also singular. (Column 6, lines 7 - 13.) A singular voltage and current applies to two inputs (positive and ground).

The Office Action has not explained how Stridsberg's motor, having twelve input wires, can replace Mukai's motor 10, which has two.

No expectation of success has been given.

PTO Defeats Mukai's Purpose

Mukai states that he uses sensors to detect various operating parameters of his system. The parameters are used as input to a control algorithm, to control power to motor 10. (Column 5, lines 29 - 42, et seq.)

If the sensors detecting one of those parameters is deemed to be faulty, a different control algorithm is used. (Column 6, line 15 et seq.; column 6, lines 46 - 55.)

Mukai does not terminate power to individual coils in a motor, as does Stridsberg.

In contrast, Stridsberg detects a fault in a coil, and terminates that coil.

POINT 1

If Stridsberg's motor is substituted for Mukai's, then Mukai is converted into a completely different device. MPEP § 2143.01, last paragraph, states:

If the proposed modification or combination of the prior art would **change the principle of operation of the prior art invention being modified**, then the teachings of the references are not sufficient to render the claims prima facie obvious.

The substitution requires Mukai, who controls a two-input motor 10, to now control the 12-input motor of Stridsberg. Mukai's control system cannot be used, and a new one must be designed. His "principle of operation" has been changed, contrary to this MPEP section.

Further, Stridsberg states that, when a coil is terminated, current to other coils is increased, to compensate. (Abstract, fourth-to-last sentence.) If this is done in Mukai, then, again, his "principle of operation" is altered.

Further still, Mukai states that, when a sensor fault is detected, power to the motor is reduced. (Column 6, line 66 - column 7, line 8.) That is contrary to the increase in current of Stridsberg just discussed. Contrary references cannot be combined. And Stridsberg's teaching of increasing current to remaining coils is another alteration of Mukai's "principle of operation."

POINT 2

It could be argued that Stridsberg's motor is not **substituted** for Mukai, but that Stridsberg's control approach is **added** to Mukai. However, Mukai's "principle of operation" is still altered.

For example, suppose that the coil in Mukai's motor 10 in his Figure 2 is detected to be faulty, as in Stridsberg. According to the latter, that coil should be terminated (which

is contrary to Mukai, who discusses no termination).

However, termination of that coil in Mukai requires termination of power to the entire motor, because only two inputs exist to the motor. Restated, even assuming that multiple coils are present within Mukai's motor 10, how is a single one of them terminated, given that the motor 10 has only one pair of inputs ?

Thus, after the termination of the coil, as taught by Stridsberg, Mukai nevertheless still attempts to provide power to the motor.

Mukai attempts to operate a terminated motor !

Again, the "principle of operation" of Mukai's device has been changed, contrary to this MPEP section. Under the PTO's combination of references, Mukai is trying to drive a motor which Stridsberg has disabled.

Therefore, irrespective of whether Stridsberg's motor is **substituted** for Mukai's motor, or Stridsberg's approach is **added to** Mukai, the "principle of operation" of Mukai is altered, contrary to the MPEP section cited above.

No Teaching in Prior Art Shown

MPEP § 706.02(j) states:

Contents of a 35 U.S.C. 103 Rejection

. . . After indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:

. . .

(C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and

(D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

To establish a *prima facie* case of obviousness, three basic criteria must be met.

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.

...

**The teaching or suggestion to make the claimed combination . . .
. must . . . be found in the prior art and not based
on applicant's disclosure.**

The rationale given by the PTO for modifying the references has not been shown in the prior art, as required.

References are Contradictory

Stridsberg teaches termination of motor coils. Mukai does not terminate any coils.

The references are contradictory as to the claim recitation of termination, and cannot be combined.

As a minimum, the PTO must show a teaching as to why Mukai's coils should be terminated.

Conclusion as to Claim 1

Applicant submits that the discussion above indicates that claim 1 cannot be obvious.

Claims 2 - 5 and 7 - 10

Claims 2 - 5 and 7 - 10 are considered patentable, based on their parent claims.

Claim 11

Point 1

The discussion of claim 1 applies here.

Claim 11(e) states that current is shut off in **all windings** in a channel. The claim also states that two channels are present, containing "m" phases each.

Thus, under the claim, a number "m" phases is terminated, because an entire channel is terminated.

That is not found in Stridsberg. He terminates, for example, three coils W1 - W3 in his Figures 2 - 5. That is not termination of "m" phases.

Point 2

Claim 11(c) recites:

. . . said torque assist command signals being directed into two separate, m-phase, torque assist channels.

The references are contradictory as to this recitation, and cannot be combined. Further, Mukai, as cited, is contrary to the claim recitation, and thus teaches against it. This will be explained.

The Office Action (page 7, fourth paragraph, beginning with "(c)") asserts that Mukai shows "said torque assist command signals being directed into **a torque assist channel**." That is contrary to the claim recitation, which recites "two separate, m-phase, torque assist channels."

That is also contrary to the Office Action's interpretation of Stridsberg. The Office Action (page 7, bottom) asserts that Stridsberg shows the claim recitation in question, which recites two channels.

Therefore, Mukai is cited to show a **single** channel, which is contrary to the claim. No showing has been made by the PTO which overcomes this teaching of Mukai.

Stridsberg is cited to show **two** channels, which is contrary to Mukai, as interpreted by the PTO.

Such contradictory references cannot be combined.

Further, no expectation of success has been shown. The PTO has not shown how Mukai's **single** channel can be combined with the **two** channels supposedly found in Stridsberg.

Point 3

No teaching has been given in favor of combining the references.

The Office Action, page 8, third paragraph, does nothing more than paraphrase column 1, lines 40 - 62, of Stridsberg.

That is, the sole justification for combining the references is a restatement of part of Stridsberg's SUMMARY OF THE INVENTION.

Stridsberg's SUMMARY OF THE INVENTION cannot be used as a teaching for a combination with Mukai.

Further, the features stated in Stridsberg's SUMMARY OF THE INVENTION are Stridsberg's assertions that **his invention** provides these features. Thus, if the goal is to attain these features, then, according to Stridsberg, **his invention by itself** provides the features.

Stridsberg's stated goals do not, as a matter of logic, lead to a combination with Mukai.

Claims 12, 13, 14, 15, and 17

The discussion of claim 11 applied to these claims.

Claim 20

Claim 20 is considered patentable based on its parent claim 19.

Claim 22

Claim 22 depends from claim 21. Claim 22 states that **two** three-phase pole groups are present, that **all poles** in one of the **two** pole groups are terminated, and that **three phases** are terminated.

As explained above, that is not found in the references, even if combined.

Claim 23

Claim 23 is considered patentable, based on its parent.

Claim 24

Claim 24 recites terminating **all poles in a set**.

Point 1

The Office Action (page 10, center of page) states that Stridsberg shows six poles. But Stridsberg states that he terminates **only one** of those "poles," such as W4 - W6. (Column 5, lines 54, 55.) That teaches against the claim.

Point 2

The Office Action, page 10, bottom, refers to Stridsberg's Figure 5. However, the

Office Action does not explain how that Figure shows the claim recitation in question.

Further, the claim states that the termination occurs in response to a "malfunction." Stridsberg states (column 9, line 44 et seq.) that he manipulates the switches 501 - 503 and 504 - 506 in his Figure 5 **during normal operation**. One reason is to save power. Therefore, even if his Figure 5 shows the termination of more than one pole (which Applicant does not admit), the termination does not occur in response to the claimed malfunction.

Stridsberg's Figure 5 does not show the claim recitation in question.

Claim 25

The discussion of claim 24 applies to claim 25.

RESPONSE TO OBVIOUSNESS REJECTIONS OF CLAIMS 6 AND 16

Claims 6 and 16 were rejected as obvious, based on Stridsberg, Mukai, and Heine.

Point 1

The Office Action modifies Stridsberg's Figure 2, based on Stridsberg's Figure 10. (Office Action, page 12, center.) However, those Figures show **separate embodiments**. (Column 3, line 59.) Thus, there is no teaching in Stridsberg that the principles of his Figure 10 should be applied to his Figure 2.

Point 2

The Office Action is self-contradictory. On page 12, just below the center, it states that Stridsberg

- shows "a pole being wound on every third one of said spokes," and
- **fails to show** "a pole being wound on every third one of said spokes."

MPEP § 706.02(j) states:

Contents of a 35 U.S.C. 103 Rejection

. . . After indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:

- (A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate . . .

The Office Action fails to comply with this MPEP section. The Office Action finds self-contradictory teachings in Stridsberg.

Self-contradictory teachings cannot be "relevant teachings" as required.

Point 3

The Office Action asserts that Stridsberg's Figure 2 shows "substantially" the 20 degrees recited in the claim.

Applicant points out that space 203 in Stridsberg's Figure 2 is not surrounded by a winding. Five other such spaces are present, making a total of six unwound spaces. Thus, the wound teeth, such as W3 and W2, are not positioned 20 degrees apart. The total 360 degrees is divided into 23 sectors: 18 sectors for the coils (eg, W1, W2, etc.) and 6 sectors for the spaces, such as 203.

Further, the teeth are not "regular" as claimed. Teeth W3 and U4 are spaced differently from each other (farther apart) than are teeth W3 and W2.

Therefore, Stridsberg's Figure 2 shows

- 1) two different spacings, eg W3 - U4 and W3 - W2,

- 2) less than 20 degrees between any two teeth, for all spacings.

Claim 6 recites

- 1) 20-degree intervals
- 2) which are "regular."

Stridsberg does not show that.

Stated more simply, at best, Stridsberg shows

- 1) **approximately** 20-degree intervals
- 2) which are **non**-regular.

That does not show claim 6, which recites

- 1) 20-degree intervals
- 2) which are "regular."

Point 4

The Office Action is modifying Stridsberg, contrary to Stridsberg's own teachings.

Applicant points out that Stridsberg's coils U4 - U6 in his Figure 2 are connected in series, as are coils W1 - W3. (Column 4, lines 20 - 21.) A different voltage is applied to U4 - U6, compared with W1 - W3. (See Figure 3.)

One reason for the space 203 is to separate U4 - U6 from W1 - W3 electrically. (Column 7, lines 25 - 30.) Specifically, Stridsberg states that this separation reduces the risk of "phase to phase" shorts. (*Ibid.*)

If the spacing is made "regular" as claimed, then spaces such as 203 must be eliminated. That is contrary to Stridsberg's teachings.

Point 5

As explained above, Stridsberg's spokes/teeth in his Figure 2 are (1) not 20

degrees apart and (2) are not "regular" as claimed.

The Office Action cites Heine for the proposition that one can alter the properties of a motor by altering (1) width of a winding and/or (2) spacing between windings. Thus, the Office Action concludes, Stridsberg's Figure 2 should be modified to produce the windings of claim 6.

However, several problems exist in this approach.

PROBLEM 1

The PTO has not shown that Stridsberg desires the properties obtained by Heine. Thus, no reason for applying the teaching of Heine to Stridsberg has been given.

A teaching is required.

PROBLEM 2

As explained above, Stridsberg provides spaces such as 203 in his Figure 2 for a specific reason, namely, to reduce the risk of phase to phase shorts. Spaces 203 cause the spacing between teeth to be (1) less than 20 degrees and (2) non-uniform.

Modifying Stridsberg's teeth, to make them uniform at 20 degrees, is contrary to Stridsberg's explicit teaching. Thus, it does not matter what Heine teaches.

Heine's teachings do not apply to Stridsberg, in this respect.

PROBLEM 3

No showing has been given that the modification, as supposedly taught by Heine, produces the **specific** claim recitations of (1) 20-degree spacing which is (2) regular.

In fact, it seems clear that hindsight is being used. Applicant's own claim is being used as the goal of the modification supposedly taught in Heine. MPEP § 706.02(j)

states:

Contents of a 35 U.S.C. 103 Rejection

. . . After indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:

. . .

(D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

To establish a *prima facie* case of obviousness, three basic criteria must be met.

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.

. . .

The teaching or suggestion to make the claimed combination . . . must . . . be found in the prior art and not based on applicant's disclosure.

The only source of the (1) regular (2) 20-degree spacing is found in Applicant's claims.

For all the foregoing reasons and in view of the claims as now presented, Applicant believes all claims as now pending are not anticipated by the references cited by the Examiner, and accordingly, they should be allowed.

The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to **Deposit Account No. 50-1287**. Applicants hereby provide a general request for any extension of time which may be required at any time during the

prosecution of the application. The Commissioner is also authorized to charge any fees which have not been previously paid for by check and which are required during the prosecution of this application to **Deposit Account No. 50-1287**. (Should Deposit Account No. 50-1287 be deficient, please charge any further deficiencies to Deposit Account No. 10-0220).

Applicant invites the Examiner to contact the undersigned via telephone with any questions or comments regarding this case. **APPLICANT(S)**
RESPECTFULLY REQUEST AN INTERVIEW WITH THE EXAMINER IF THIS AMENDMENT DOES NOT PLACE THIS CASE IN CONDITION FOR ALLOWANCE.

Reconsideration and favorable action are respectfully requested.

Respectfully submitted,

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